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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,778	07/21/2003	Brent W. Pankey	65,277-002	6103

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EXAMINER

FAYYAZ, NASHMIYA SAQIB

ART UNIT PAPER NUMBER

2856

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/623,778

Applicant(s)

PANKEY ET AL.

Examiner

Nashmiya S. Fayyaz

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-30 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 112***

1. Claims 3-7 and 10-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 3, on line 2, and in claims 6-7, on line 5, it is noted that there is no prior step of determining the rate “with a derivative...” and therefore it is unclear how it is “further defined...” as on line 3/6. In claims 10-11, it is unclear what “v” represents in the claims. In claim 18, “the next largest” appears to refer to that of claim 17, which appears to be incorrect. In claim 19, “the digital value”, “the digital signal” and “the magnitude component” lacks clear antecedent basis on lines 3-4. In claims 20-21, on line 3, “the magnitude component” and “the digital value” lacks clear antecedent basis. In claims 23-25, “the enhanced digital value” and “the magnitude component” (each instance) lacks clear antecedent basis. In claim 30, on the last 2 lines, it would appear incorrect to indicate that the intervals of time are used with “an equation” but rather a *count* of the number of intervals is used.

***Claim Rejections - 35 USC § 103***

2. Claims 1, 2, 8-10, 19, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over “A Stochastic Raindrop Time Distribution Model” by Lavergnat et al. in view of SU-1462182 (Baulin et al).

As to claims 1, 2, 8-10, 19, and 27, Lavergnat et al. disclose a stochastic raindrop distribution model which detects the “pulselike waveform” caused by raindrops falling which generates a signal with peaks and determine the intervals of time between

Art Unit: 2856

the drops or peaks to establish distributions of interdrop intervals bins which obviously have a first and second range of intervals of time and then graphing the counts per bin to establish a point process equation based on the counts, see p.806-815. However, Lavergnat et al fail to teach actually measuring a "vibration" signal. In a closely related prior art device Baulin et al. disclose measuring raindrop distributions using the vibrations caused by the raindrops in order to count the raindrops. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have indicated measuring the "pulselike waveform" disclosed by Lavergnat et al as measuring vibrations caused by the raindrops since such an expediency is known as disclosed by Baulin et al. for evaluating the distribution of falling raindrops. As to claim 2, note Fig 2a of the Lavergnat et al article showing the counts per bin of interdrop time intervals which implies a span. As to claim 9, enhancement of signals for analysis is old and well-known for improved response. As to claim 19, note the threshold of 0.3mm was applied to eliminate "false alarms", see p.806. As to claims 27-29, creation of a rain signal or usage of a wiper are old and well-known such that there inclusion to a rain measurement is considered to have been obvious to one of ordinary skill in the art at the time of the invention as known combinations.

***Allowable Subject Matter***

3. Claims 3-7, 11-18, and 20-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2856

4. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashmiya S. Fayyaz whose telephone number is 571-272-2192. The examiner can normally be reached on Mondays and Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208. The fax phone


Art Unit: 2856

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
NFayyaz  
Examiner  
Art Unit 2856

nf  
6/3/04

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
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